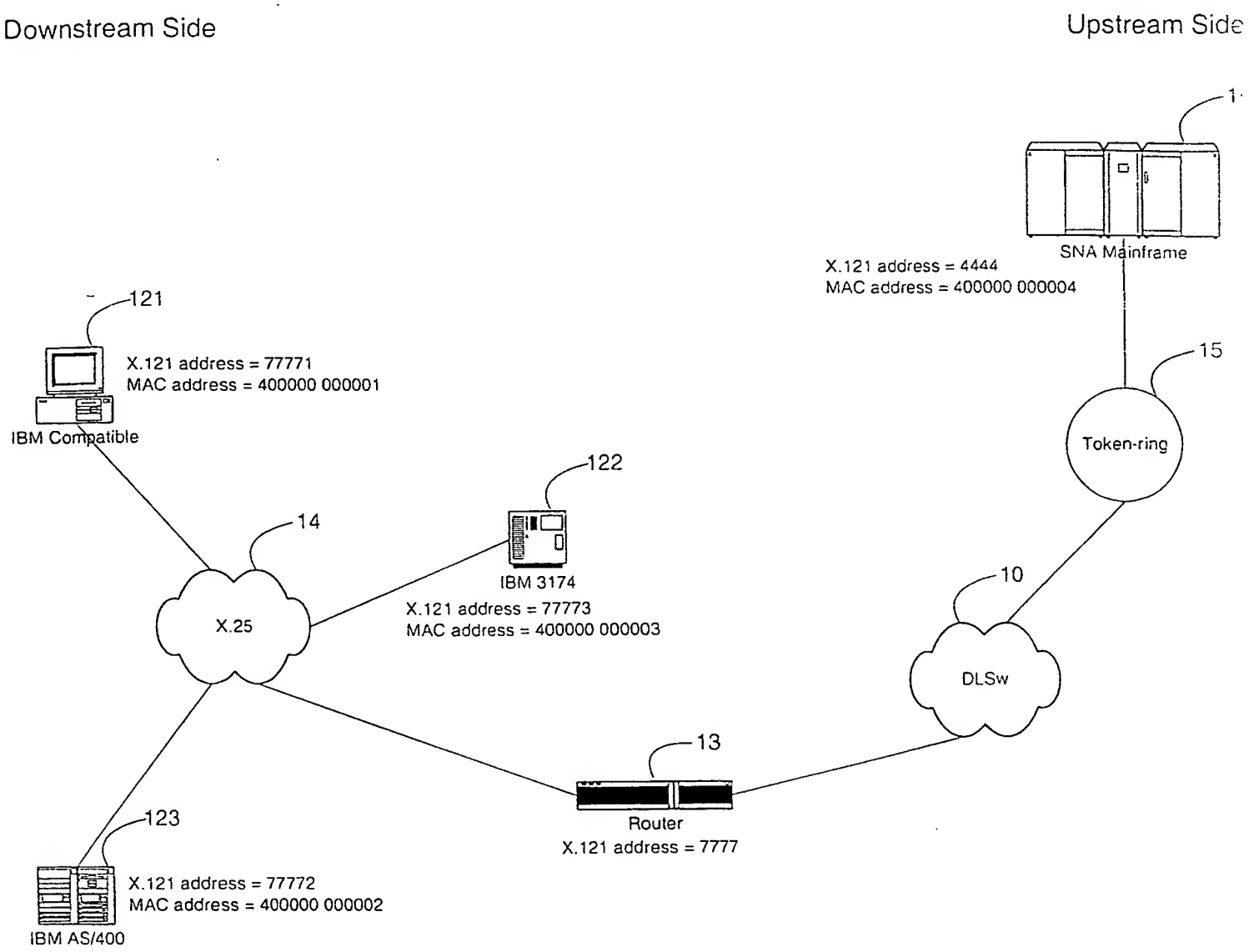

FIG. 1 100

PRIOR ART

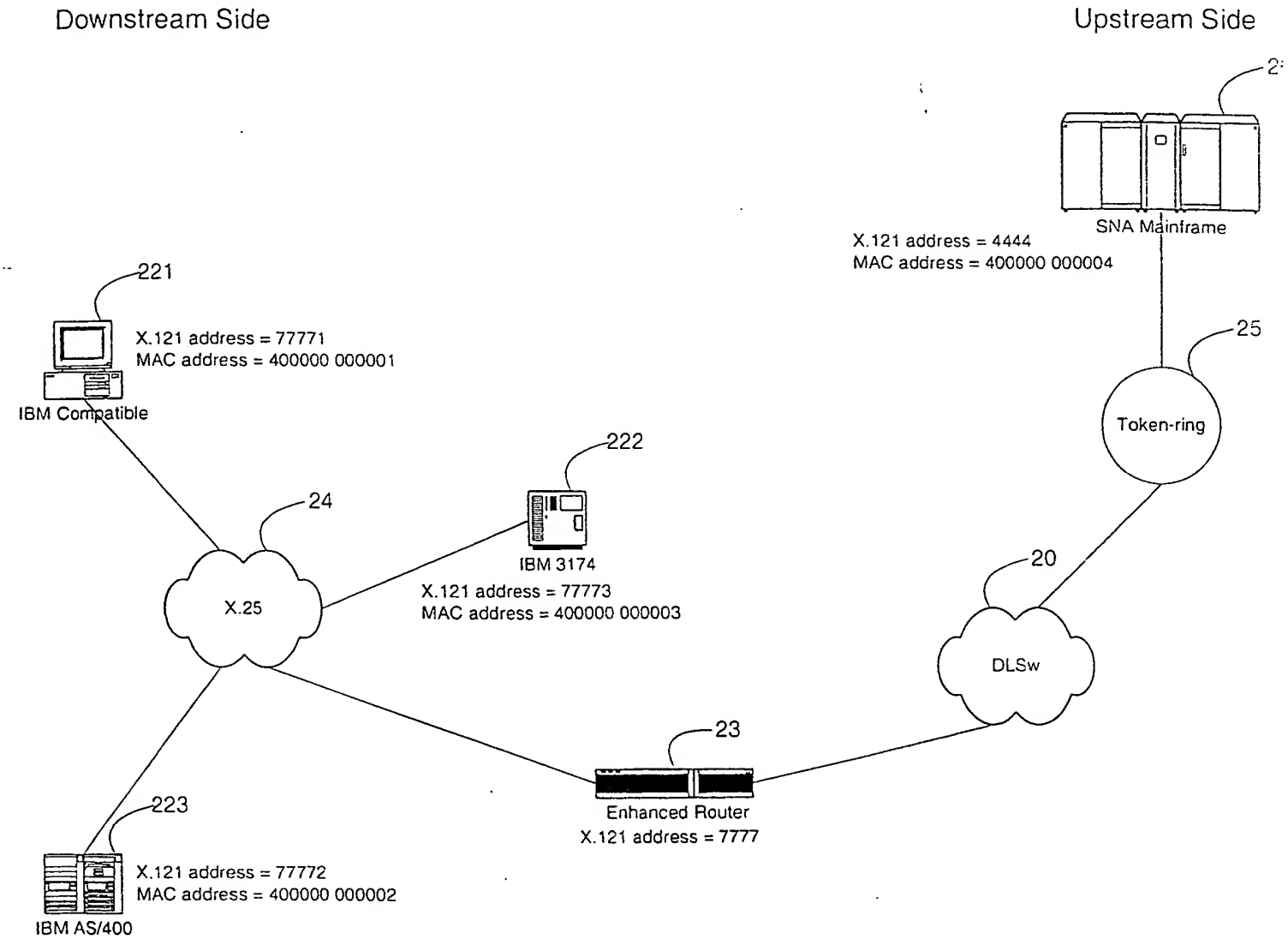
Downstream Side
Upstream Side
2
SNA Mainframe
X.121 address = 4444
MAC address = 400000 000004
221
X.121 address = 77771
MAC address = 400000 000001
IBM Compatible
25
Token-ring
222
24
IBM 3174
X.121 address = 77773
MAC address = 400000 000003
X.25
20
DLSw
23
Enhanced Router
X.121 address = 7777
223
X.121 address = 77772
MAC address = 400000 000002
IBM AS/400

FIG. 2 200

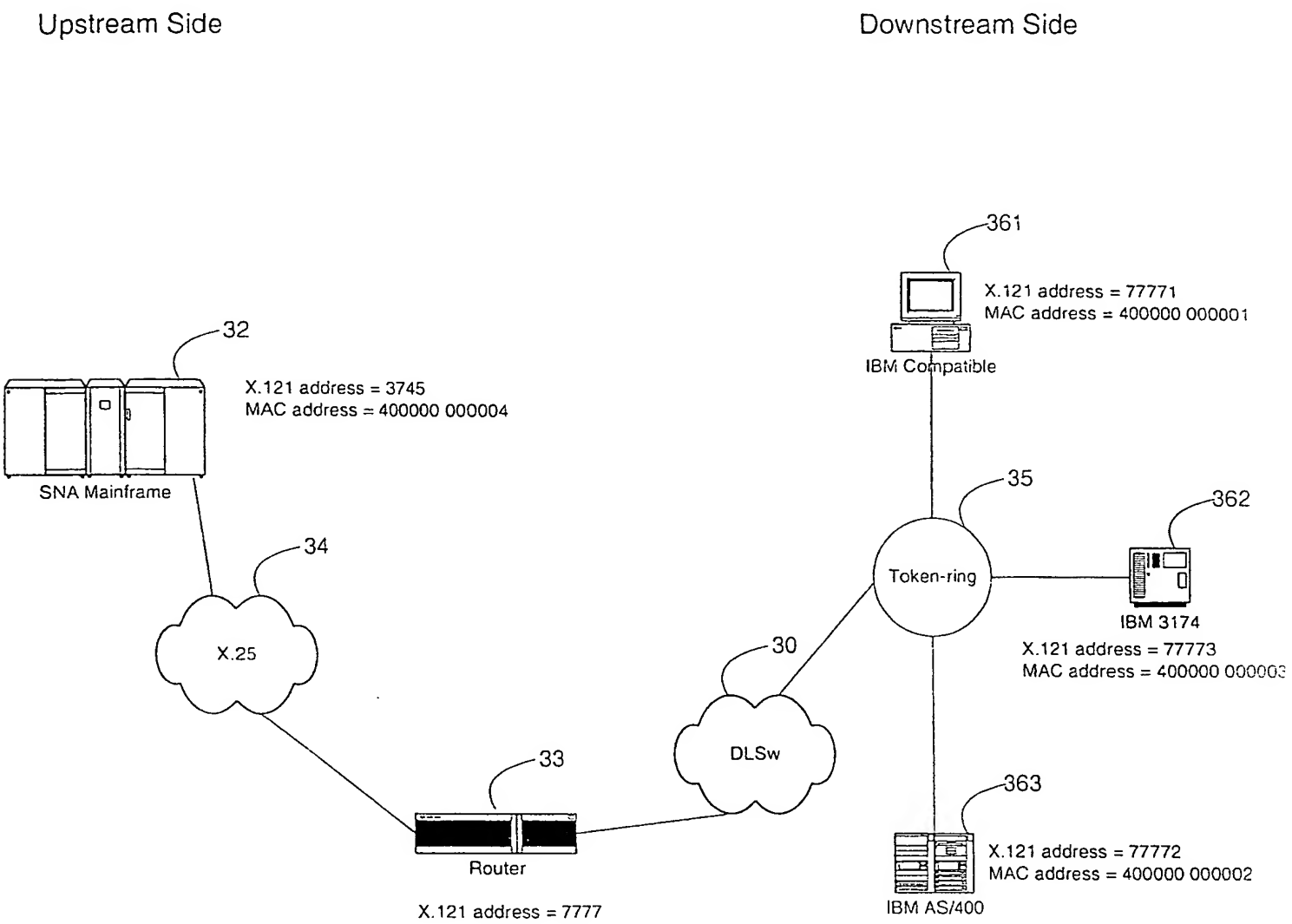

FIG. 3 300

PRIOR ART

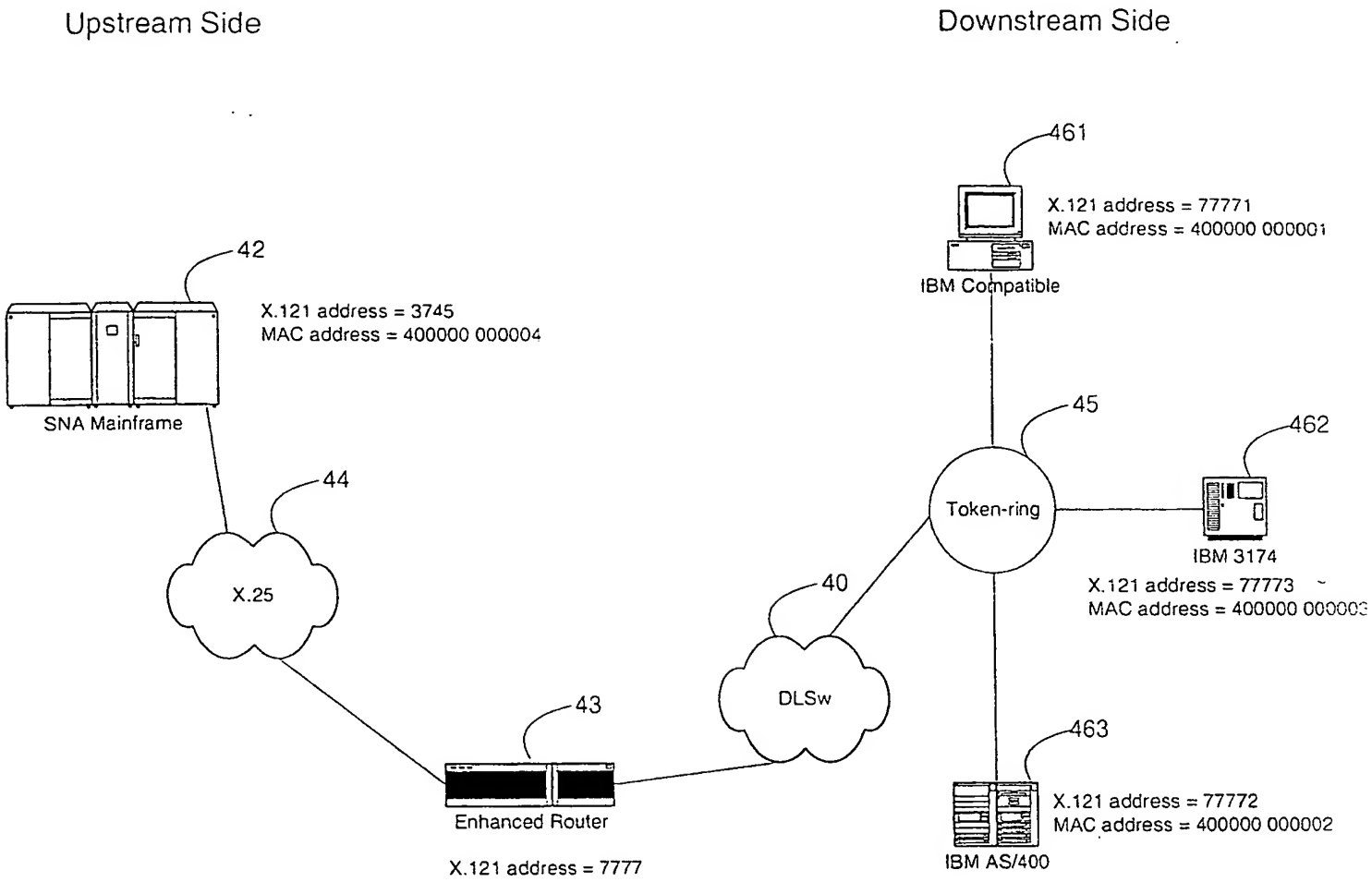
Upstream Side
Downstream Side
461
X.121 address = 77771
MAC address = 400000 000001
IBM Compatible
42
X.121 address = 3745
MAC address = 400000 000004
SNA Mainframe
45
462
Token-ring
IBM 3174
X.121 address = 77773
MAC address = 400000 000003
44
X.25
40
DLSw
43
463
Enhanced Router
X.121 address = 7777
X.121 address = 77772
MAC address = 400000 000002
IBM AS/400

FIG. 4 400

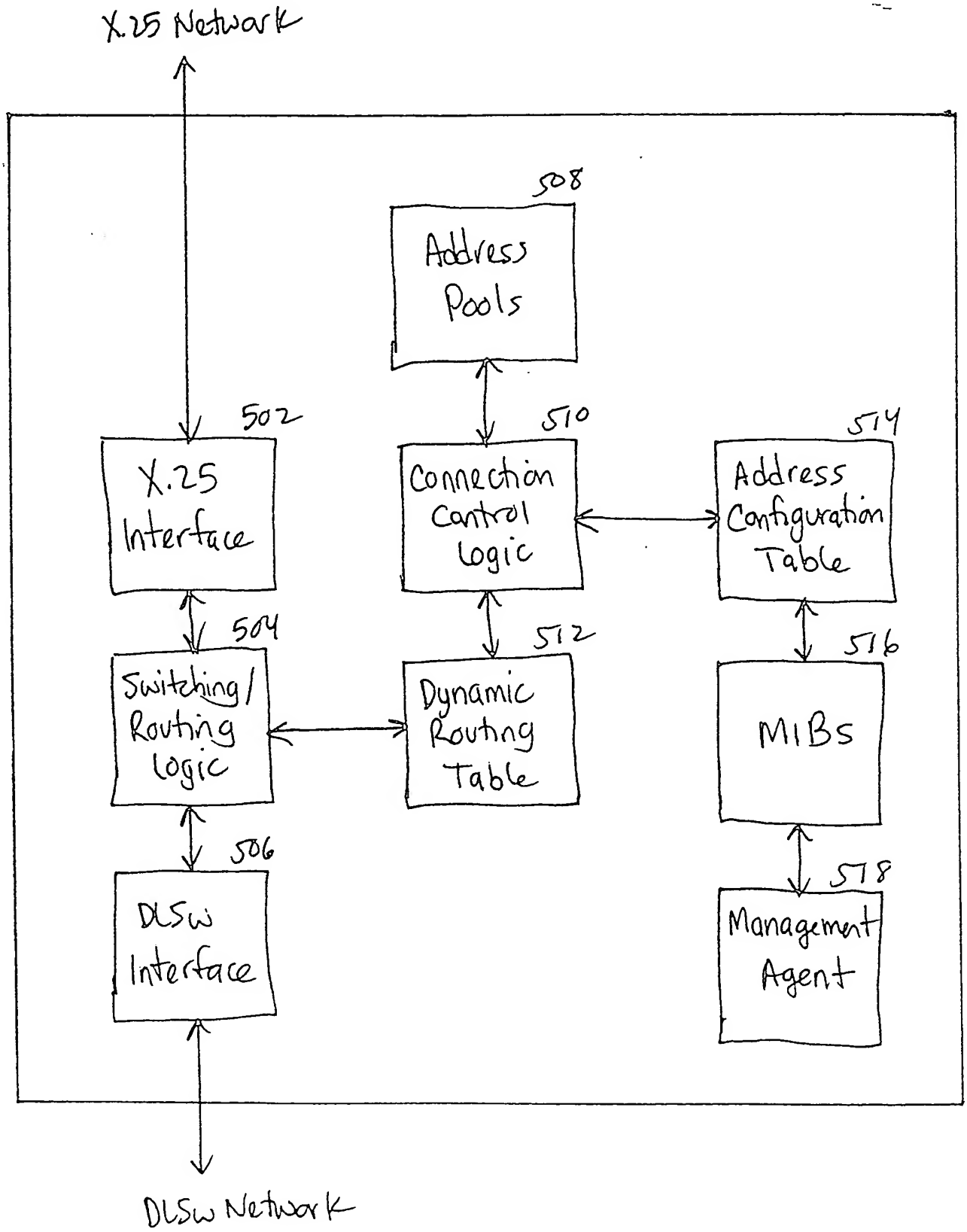
X.25 Network
508
Address Pools
502
510
514
X.25 Interface
Connection Control Logic
Address Configuration Table
504
512
516
Switching/ Routing Logic
Dynamic Routing Table
MIBs
506
518
DLSw Interface
Management Agent
DLSw Network

FIG. 5 500

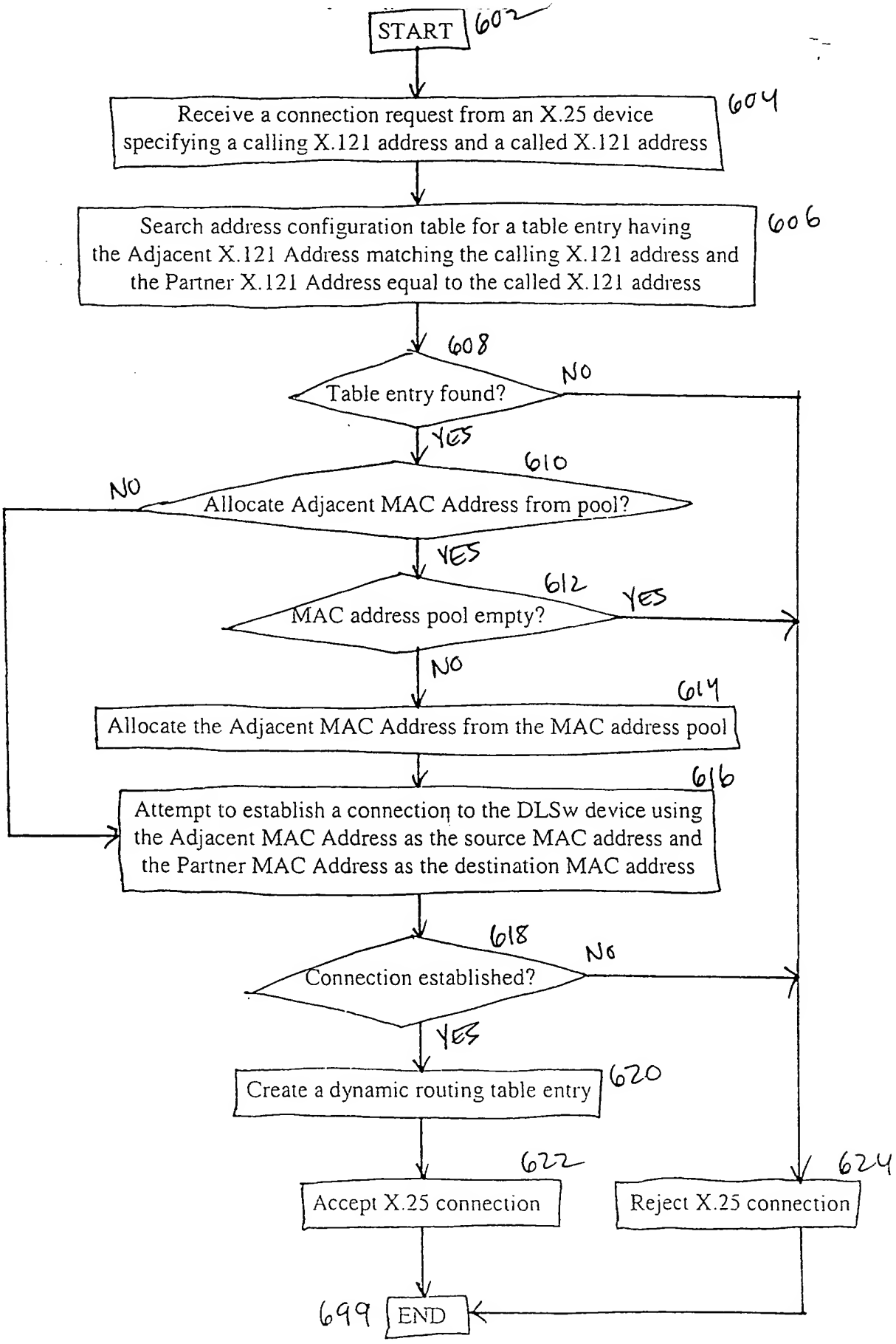
START
602
Receive a connection request from an X.25 device specifying a calling X.121 address and a called X.121 address
604
Search address configuration table for a table entry having the Adjacent X.121 Address matching the calling X.121 address and the Partner X.121 Address equal to the called X.121 address
606
608
Table entry found?
NO
YES
610
NO
Allocate Adjacent MAC Address from pool?
YES
612
MAC address pool empty?
YES
NO
614
Allocate the Adjacent MAC Address from the MAC address pool
616
Attempt to establish a connection to the DLSw device using the Adjacent MAC Address as the source MAC address and the Partner MAC Address as the destination MAC address
618
Connection established?
NO
YES
620
Create a dynamic routing table entry
622
Accept X.25 connection
624
Reject X.25 connection
699
END

FIG. 6 600

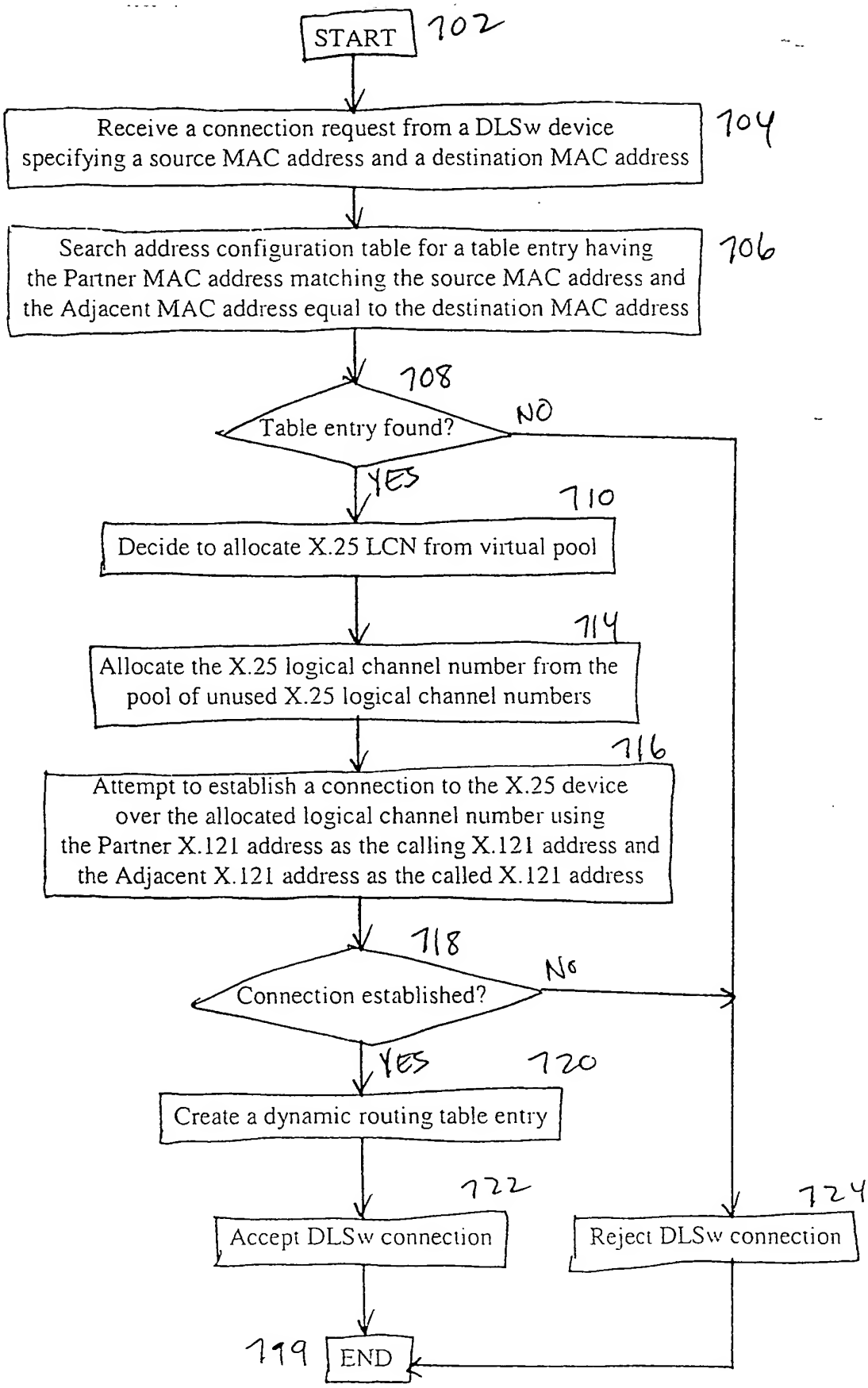
START
702
Receive a connection request from a DLSw device specifying a source MAC address and a destination MAC address
704
Search address configuration table for a table entry having the Partner MAC address matching the source MAC address and the Adjacent MAC address equal to the destination MAC address
706
708
Table entry found?
NO
YES
710
Decide to allocate X.25 LCN from virtual pool
714
Allocate the X.25 logical channel number from the pool of unused X.25 logical channel numbers
716
Attempt to establish a connection to the X.25 device over the allocated logical channel number using the Partner X.121 address as the calling X.121 address and the Adjacent X.121 address as the called X.121 address
718
Connection established?
No
YES
720
Create a dynamic routing table entry
722
Accept DLSw connection
724
Reject DLSw connection
719
END

FIG. 7 700

	802 Map Name	804 Adjacent X.121 Address	806 Partner X.121 Address	808 Adjacent MAC Address	810 Partner MAC Address
812 -	AS400_map	77772	4444	400000000002	400000000004
814 -	3174_map	77773	4444	400000000003	400000000004
816 -	PC_map	77771	4444	400000000001	400000000004

FIG. 8 800
PRIOR ART

	902 Map Name	904 Adjacent X.121 Address	906 Partner X.121 Address	908 Adjacent MAC Address	910 Partner MAC Address	911 Flag
912 -	Host1_map	.*	4444	(nil)	400000000004	0

FIG. 9 900

	1004 Adjacent X.121 Address	1006 Partner X.121 Address	1007 X.25 LCN	1008 Adjacent MAC Address	1010 Partner MAC Address
1012 -	77772	4444	1	400000000005	400000000004

FIG. 10 1000

	1102 Map Name	1104 Adjacent X.121 Address	1106 Partner X.121 Address	1108 Adjacent MAC Address	1110 Partner MAC Address
1112	AS400_map	3745	77772	400000000004	400000000002
1114	3174_map	3745	77773	400000000004	400000000003
1116	PC_map	3745	77771	400000000004	400000000001

FIG. 11 1100
PRIOR ART

	1202 Map Name	1204 Adjacent X.121 Address	1206 Partner X.121 Address	1208 Adjacent MAC Address	1210 Partner MAC Address	1211 Flag
1212	NPSI_host	3745	7777	400000000004	.*	1

FIG. 12 1200

	1304 Adjacent X.121 Address	1306 Partner X.121 Address	1307 X.25 LCN	1308 Adjacent MAC Address	1310 Partner MAC Address
1312	3745	7777	2	400000000004	400000000002

FIG. 13 1300

	1402 Map Name	1404 Adjacent X.121 Address	1406 Partner X.121 Address	1408 Adjacent MAC Address	1410 Partner MAC Address	1411 Flag
1412	NPSI_host	3745	(nil)	400000000004	.*	1

FIG. 14 1400

	1504 Adjacent X.121 Address	1506 Partner X.121 Address	1507 X.25 LCN	1508 Adjacent MAC Address	1510 Partner MAC Address
1512	3745	8888	1	400000000004	400000000002

FIG. 15 1500

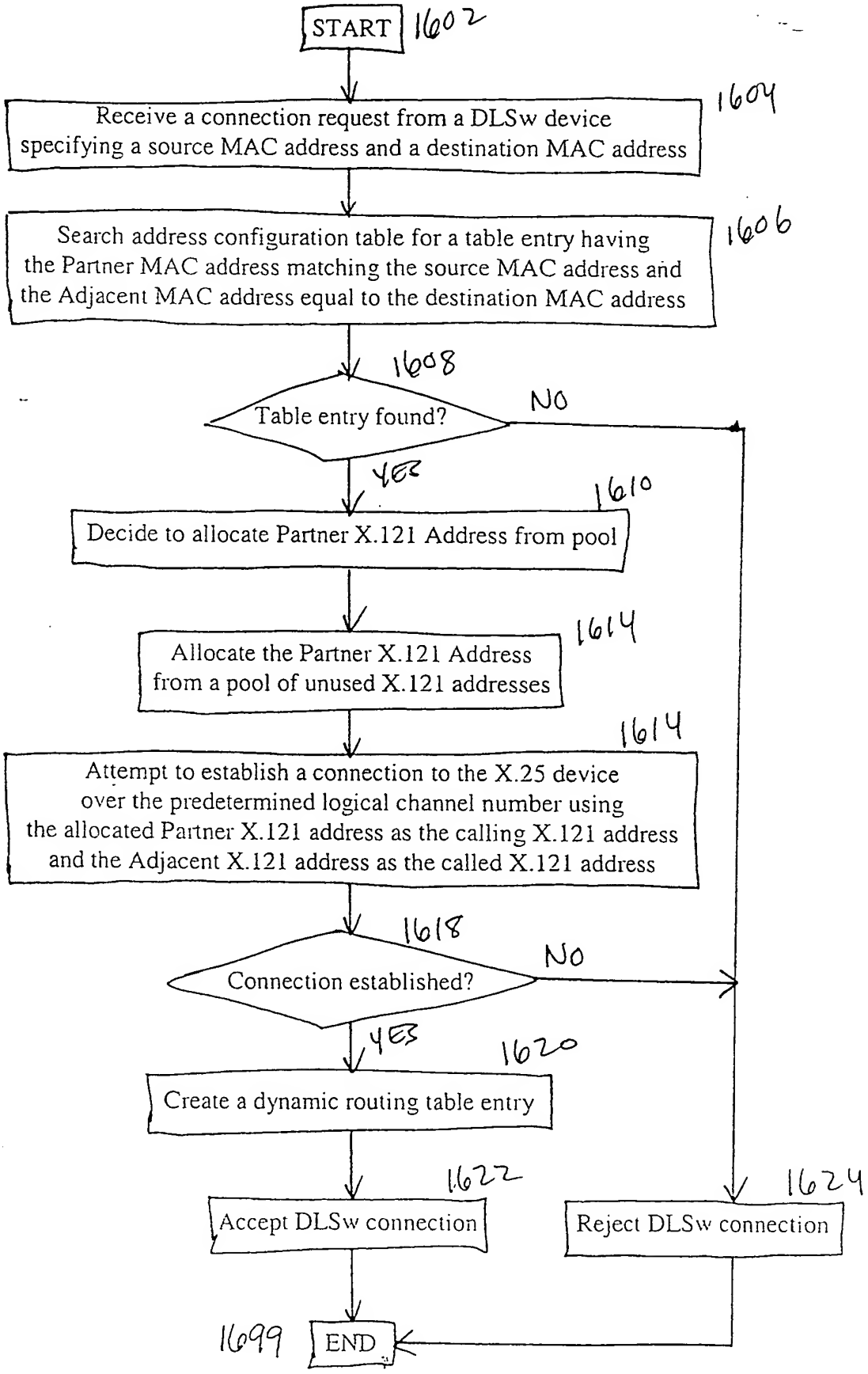
START
1602
Receive a connection request from a DLSw device specifying a source MAC address and a destination MAC address
1604
Search address configuration table for a table entry having the Partner MAC address matching the source MAC address and the Adjacent MAC address equal to the destination MAC address
1606
1608
Table entry found?
NO
YES
1610
Decide to allocate Partner X.121 Address from pool
1614
Allocate the Partner X.121 Address from a pool of unused X.121 addresses
1614
Attempt to establish a connection to the X.25 device over the predetermined logical channel number using the allocated Partner X.121 address as the calling X.121 address and the Adjacent X.121 address as the called X.121 address
1618
Connection established?
NO
YES
1620
Create a dynamic routing table entry
1622
Accept DLSw connection
1624
Reject DLSw connection
1699
END

FIG. 16 1600